

Patent Claims

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1. Pressure-resistant process window 1 for visual or spectroscopic examination of pressurized products in pipes and reactors, consisting at least of a measurement-cell body 2 which is connected to the pipe or the reactor, a transparent window pane 3 and a seal 4 between the measurement-cell body 2 and the window pane 3 for sealing the reactor or pipe interior off from the environment, where the window pane 3 is held against the measurement-cell body 2 in a sealing manner by means of a screw barrel 5 having an external thread 6, which can be screwed into a hollow barrel 7 with internal thread 8 which is connected to the measurement-cell body 2, characterized in that the hollow barrel 7 is connected to the measurement-cell body 2 in a pressure-resistant and preferably detachable manner, and in that the window pane 3 has a greater wall thickness in its central region than in the outer region.
 2. Process window according to Claim 1, characterized in that the hollow barrel 7 has an annular sealing surface on which the window pane 3 lies in a pressure-resistant manner.
 3. Process window according to Claim 1 or 2, characterized in that the hollow barrel 7 is designed in one piece with the measurement-cell body 2 or is welded thereto.
 4. Process window according to Claim 1 or 2, characterized in that the hollow barrel 7 is connected to the measurement-cell body in a pressure-resistant, detachable manner.
 5. Process window according to one of Claims 1 to 4, characterized in that a ring 4 with low friction against the barrel or the window pane is present between the screw barrel 5 with external thread and the window pane 3.
 6. Process window according to Claim 5, characterized in that the ring 4 consists of graphite.
 7. Process window according to Claim 5, characterized in that two rings which are in sliding contact with one another are present instead of a ring 4.

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8. Process window according to one of Claims 1 to 7, characterized in that the window pane 3 is extended into the pipe space or reactor space with its central region of greater wall thickness and in particular is surrounded on its periphery by a protective sleeve 23.
 9. Use of the process window according to one of Claims 1 to 8 for optical or spectroscopic process control, in particular of chemical reactions, and of mixing, conveying and separation processes.

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